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Migration Statistics

Migration statistics – Challenges for Statistics Lithuania

Prepared by Statistics Lithuania

Summary

The paper describes the main objectives of the inter-census revision, the results of the analysis and improvement of the demographic and migration statistics. The Lithuanian population and housing census results of 2011 showed that during the inter-census period higher undeclared emigration existed.

The quality improvements of migration statistics focus on development of scientifically based statistical estimation methods and use of various data sources: household surveys, population registers and censuses. Statisticians are looking for estimation methods for using administrative data sources to produce migration and population statistics that meet user needs.

The paper is presented for discussion to the Conference of European Statisticians seminar on migration statistics.

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I. Introduction

1. Many countries are facing demographic challenges manifested not only by declining fertility rate and rapidly ageing population, but also by migration processes. Dynamics and complexity of migration processes influence the formation of migration policy; therefore, over the recent years statisticians have drawn considerable attention to estimate emigration process (or its volume). In recent years, the international statistical community has intensified its efforts to improve availability, quality and comparability of available data on international migration. These efforts include for instance collection, estimation and dissemination of international migration statistics disaggregated by relevant demographic and socio-economic characteristics.

2. One of the important tasks for a national statistics office is to measure international migrant flows, to estimate the number of the usual resident population at a regional level and the changing structure of the population as well as to estimate the number of live births and deaths. The recently passed European Union (EU) regulation No 1260/2013 of the European Parliament and of the Council on European demographic statistics provides the framework for further development of demographic and migration statistics. The legal basis is an appropriate tool to harmonise definitions of usual residence across the EU countries, to define data sources and meet quality standards.

3. The regulation provides that scientifically based and well-documented statistical methods may be used in the compilation of demographic statistics. This stimulates national statistics offices to conduct feasibility studies and gives an impetus to seek the best solutions for implementing the regulation.

II. Production of international migration statistics

A. Main data sources for international migration statistics

4. Emigration of population is the critical component which leads to decline in the number of Lithuanian population. The results of such changes need to be measured and analysed with statistical information and forecasts.

5. The underlying framework for the production of international migration statistics is regulation (EU) No 862/2001 of the European Parliament and of the Council on migration and international protection. During the last decade, considerable efforts to produce and improve the quality of international migration statistics, for instance by resorting to harmonized definitions, have been seen.

6. To comply with the regulation, Statistics Lithuania annually produces and disseminates comprehensive statistical information on international migration processes, including on the volumes of emigration and immigration, countries of destination and the main demographic and socio-economic characteristics of migrants.

7. The following data sources are used for producing international migration statistics: administrative data, household surveys, and population and housing censuses.

8. **Administrative data.** Statistics Lithuania uses main state registers and other administrative data sources relevant for international migration.

9. The main data source is the residents' register of the Residents' Register Service under the Ministry of the Interior of the Republic of Lithuania (hereinafter referred to as Population Register). The following data from the Population Register is used: declared

place of residence in the Republic of Lithuania, date of arrival, country of departure, date of departure and country of destination.

10. In addition, information on foreign migrants is derived from the Foreigners' Register under the Ministry of the Interior of the Republic of Lithuania (hereinafter referred to as Foreigners' Register). Statistical information on the employment status of emigrants, before emigration, is produced using personal data from the database of the State Social Insurance Fund Board under the Ministry of Social Security and Labour (hereinafter referred to as Sodra) and from the statistical business register.

11. **Household surveys.** Due to cases of undeclared migration, emigration statistics could underestimate the number of people who left the country. Until 2010, there was no appropriate legal mechanism for encouraging or obliging migrants to declare their departure from Lithuania. Migrants may not always declare their departure, if there is no obvious benefit in de-registration, or if the country of destination does not require any evidence of de-registration from the country of origin.

12. The results of an Undeclared Emigration survey (based on the Labour Force Survey) from 2006 and 2010 have been useful in dealing with the problem of estimating undeclared emigration. The surveys were used to estimate the numbers of undeclared emigration for the period of 2001-2009. According to the results, only two thirds of emigrants declared their departure from Lithuania. This survey also allowed estimating annual numbers of undeclared emigrants and their main demographic and socio-economic characteristics.

13. In 2010, the Law on Health Insurance of Lithuania introduced an obligation for permanent residents to pay compulsory health insurance contributions. This had a positive impact on taking account of emigrants, as they now have an interest to declare their departure to avoid the health insurance payments. Thus, since 2010, the Undeclared Emigration survey has been terminated as redundant.

14. **Population and Housing Censuses.** The availability of data from the Population and Housing Census (hereinafter referred to as Population Census) is an important opportunity for countries to check and revise the population and migration estimates for previous years, as well as for establishing a new population count as a base for future annual estimates.

B. Longitudinal data study on international migrants

15. Due to globalisation population gets more and more mobile and their place of usual residence is not easy to define. The question is, what to expect in the future in terms of return migration. To this end, the behavioural pattern of return migrants and their main demographic characteristics (e.g. age) should be analysed.

16. However, measuring return migration is a challenge to statisticians. The United Nations Statistics Division suggests defining return migrants as "persons returning to their country of citizenship after having been international migrants (whether short-term or long-term) in another country and who are intending to stay in their own country for at least a year".

17. Household surveys provide some information on immigrants and return migrants. Since these surveys cover only a small part of the total population, the analysis of immigrants and return migrants from surveys is difficult, especially if trying to identify their demographic characteristics by different breakdowns (regional level, etc.).

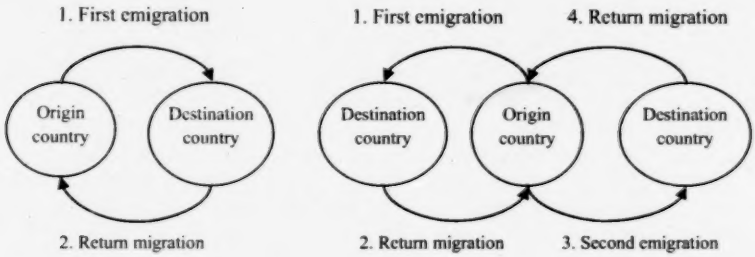
18. Using the Population Census data, and the Demographic Database which is based on the Population Register, for longitudinal analysis have given a deeper statistical understanding on return migration.

19. In 2013, Statistics Lithuania designed a pilot study to explore the historical behaviour pattern of return migrants (that have the Lithuanian citizenship) who immigrated to Lithuania in 2012. The study explored the following questions: How long did the return migrants live abroad? What country of destination did they select second after the first experience of being an emigrant abroad? Also one of the important objectives was to define the main types of return migration in Lithuania for statistical analysis. The first type of migration was the migration which could be defined as a pattern of the first emigration from Lithuania (origin country) to another country and return migration to the country of origin during the reference period (Figure 1). The second type was defined as a more difficult pattern of emigration with a return migration (immigration) process which could occur more than twice during the selected period. The 12 months and longer length criterion was taken into account in defining the migrant population.

20. In Lithuania every resident is attributed a personal identification number. It helps to merge datasets and follow groups over time. This is crucial for carrying out longitudinal studies. Linking of different databases unlocks numerous possibilities for studies on people's movements over time. The pilot study was based on merging all separate Emigration and Immigration data files (from the Demographic Database based on Population Register records) from 2004 to 2012 into one longitudinal migration data.

21. The idea of the study was also to develop a methodology for the revision of 2001-2009 undeclared emigration flows by different breakdowns, such as sex, age.

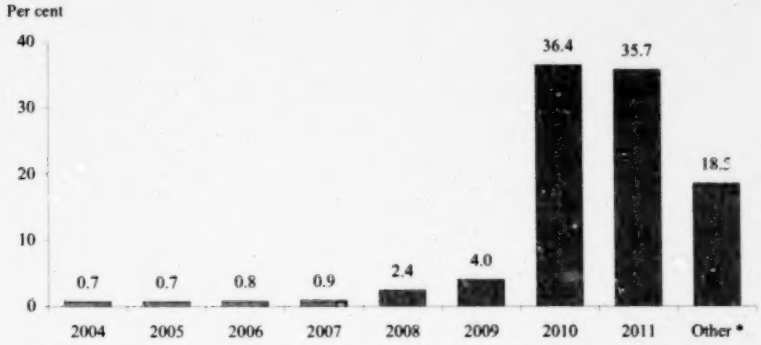
Figure 1.
The main types of return migration in Lithuania



22. The pilot study results showed that 35.7 per cent of immigrants who had immigrated in 2012 had stayed abroad for one year (emigrated in 2011); 36.4 per cent stayed abroad for two years (emigrated in 2010); 4 per cent stayed abroad for three years (emigrated in 2009); and 2.4 per cent stayed abroad for four years (Figure 2). In total, 5 per cent of persons participated in the migration process more than two times (last time they immigrated to Lithuania in 2012).

Figure 2.

Return migrants (persons immigrated in 2012) by emigration from Lithuania year, per cent

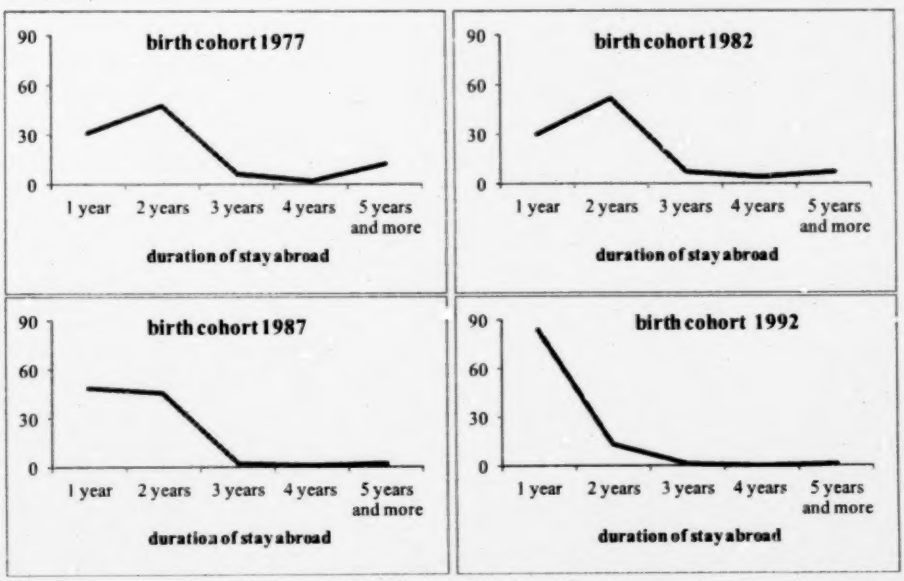


* – Included persons, who emigrated before year 2004, who did not declare their emigration and who immigrated for the first time to Lithuania

23. The pilot study results showed that 12 per cent of return migrants by birth cohort 1977 (35 years old) had been living abroad for five years and longer (Figure 3); 48 per cent for two years. 46 per cent of return migrants by birth cohort 1987 (25 years old) had been living abroad for two years; and 49 per cent for one year. In total, 84 per cent of return migrants by birth cohort 1992 (20 years old) had been living abroad for one year. The return migration rates were higher for return migrants under 35 years old than for older cohorts.

Figure 3.

Return migrants (returned in 2012) by length of stay abroad and birth cohort, per cent



24. The study results showed that the majority (79 per cent) of return migrants, for the second and subsequent time, emigrated to the same country to which they had emigrated for the first time. The knowledge of the environment, labour market and culture of the country had encouraged them to choose the same destination. Lithuania – the United Kingdom – Lithuania was the most popular route for return migrants, the second and the third most popular routes were Ireland and Norway, respectively.

C. Experience in inter-census revisions

25. During the first decade of the 21st century, Lithuania's population has experienced one of the most dynamic periods since the independence of Lithuania in 1990 which has been associated with high flows of emigrants. In recent years, emigration flows have been significant, while immigration flows have been decreasing. Taking everything into account, quantitative description of the evolving migratory flows represents an inevitable challenge for the production of official statistics in Lithuania.

26. The 2011 Population Census results showed that the population structure has changed compared with non-revised population figures. The main reason for this change in the working-age population was the high emigration flows of young and working-age persons. The Population Census results also showed smaller number of children compared with the numbers of live births during the inter-census period.

27. In addition, the 2011 Population Census serves as the most appropriate tool to complete the statistical picture at times of demographic changes. After producing the Census results, Statistics Lithuania provided definitive data on population and demographic events as well as on international migration for the inter-census period (2001-2010).

28. **Inter-census revision of migration flows.** Despite high emigration flows that were based on the declaration of the usual place of residence and additional estimation of undeclared emigration based on household survey results, the 2011 Population Census results also showed that during the inter-census period higher undeclared emigration existed. The main aim of the inter-census revision was to estimate annual undeclared international migration flows as well as population structure by age, sex and citizenship.

29. Therefore, the undeclared emigration flows established during the 2001–2009 period were adjusted based on the 2011 Population Census and household surveys (Undeclared Emigration survey) results. Annual emigration flows during this period were proportionally recalculated by the level of the Undeclared Emigration survey volume, taking into account the adjusted total undeclared emigration flows (Figure 5).

30. The method used in the pilot study could help to estimate probabilities when (in which year) the person emigrated (Figure 4). Such probabilities in one particular year and the next year were estimated for the entire 2001-2009 period. The years during which persons were absent from Lithuania could be estimated using the Population Census data on immigrated persons and applying probabilities. Presuming that characteristics of persons leaving abroad and persons returned (age, sex, etc.) are similar and applying survey sampling methods, the number of emigrants was estimated by sex, age and the country of destination.

Figure 4.
Recalculation scheme of the number of emigrants in the inter-census period

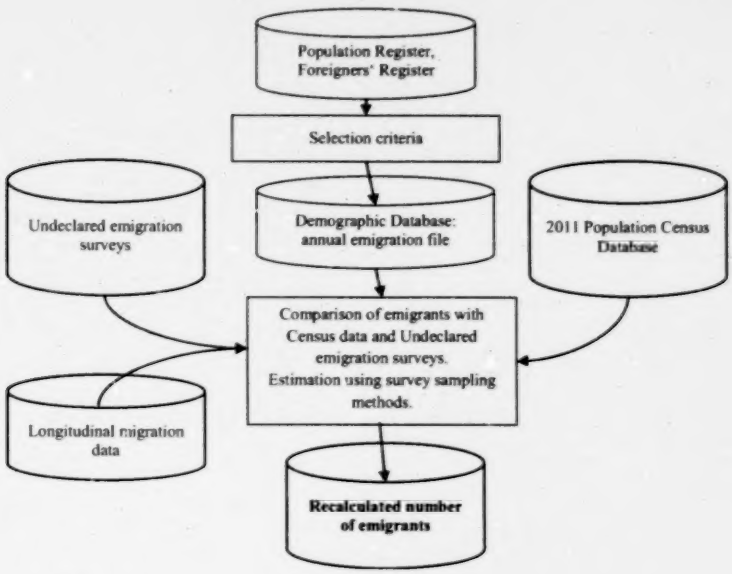
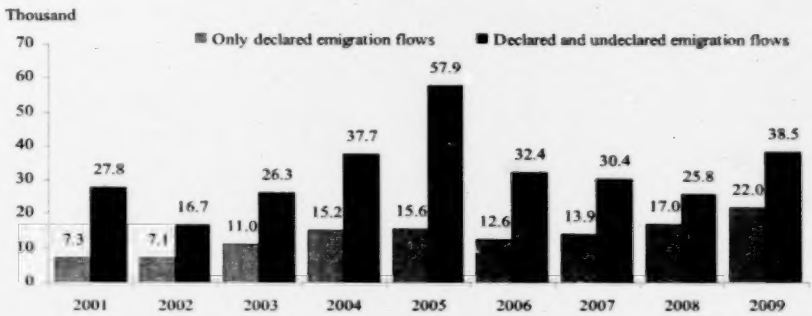

Population Register, Foreigners' Register
Selection criteria
Undeclared emigration surveys
Demographic Database: annual emigration file
2011 Population Census Database
Comparison of emigrants with Census data and Undeclared emigration surveys. Estimation using survey sampling methods.
Longitudinal migration data
Recalculated number of emigrants

Figure 5.
Declared and non-declared emigration flows, thousand



31. **Inter-census revision of fertility statistics**. The analysis of the inter-census revision of emigration, population figures, Population Census results and additional administrative data showed that fertility statistics should be also revised between the two censuses. This is especially related to the children born abroad, despite the fact that one of the parents is a usual resident of Lithuania, who when compared with the Census results, could be a possible undeclared emigrant. The revision of children born abroad was performed from the Demographic Database taking into account children enumerated in the Census. If data on those children were in the Population Census Database, they have been included in the revised annual fertility statistics.

32. The Fertility survey methodology was renewed after the analyses of the 2011 Population Census final results, when it was observed that some mothers, who have given birth to children abroad, did not reside in Lithuania, although maintained a permanent address in the country. The methodology allows estimating more precisely the number of children born abroad and born in Lithuania. Obviously, this contributes to a higher quality of migration statistics. For this purpose during the first stage, children born abroad, whose mothers are permanent residents of Lithuania and their declared address is in Lithuania, are selected from the Population Register. During the second stage, data on the selected children are compared with data from other administrative sources (the Compulsory Health Insurance Fund information system (hereinafter referred to as Sveidra) and Sodra). Therefore, statistics include only children under one year of age, who had records of visits to a doctor and (or) their mothers received social (maternity) benefits during the childcare leave.

33. The revised population number and its structure was determined using the cohort-component method based on the results of two Population Censuses, revised numbers of live births, revised numbers of emigration flows, revised internal migration flows and non-revised numbers of deaths and immigrants.

III. Future work in developing demographic and migration statistics

34. Future work on the improvement of the availability and quality of demographic statistics and international migration in Lithuania includes the following actions:

(a) In 2014-2015, the implementation of the regulation (EU) No 1260/2013 on European demographic statistics remains the top priority for Statistics Lithuania. One of the important tasks is to reflect the international migrants' flows, to estimate the number of the usual resident population at the regional level, the changing structure of the population, to estimate the number of live births, deaths and internal migration. The planned feasibility studies would allow at the same time moving towards a more harmonised population definition, while carefully testing and evaluating the quality of the output. The aim of those studies is to show how the same scientifically based and well-documented methods could be applied for population data, vital events by different breakdowns and total population number for the purposes of qualified majority voting;

(b) Longitudinal migration data analysis will be continued for the estimation of return migrants' behaviour patterns and their demographic characteristics;

(c) Preparatory work for the 2021 Population Census based on administrative data has already started. The migration issue is of high priority when defining the usual resident population.

IV. Conclusions

35. Currently available data sources have been insufficient for producing comprehensive migration statistics and satisfying users' needs. Therefore, Statistics Lithuania has developed new methods to improve the quality of international migration statistics and demographic statistics. This has enabled revisions in migration statistics, fertility statistics, the number of population within the inter-census period, and to perform the analyses on return migrants based on longitudinal data.

36. The inter-census revision has stimulated changes in the methodology of the Fertility survey and production of fertility statistics.

37. Longitudinal migration data analysis showed the behaviour of return migrants and the duration of their stay abroad. Longitudinal migration studies will be continued in the future.

38. Statistics Lithuania has recognised that greater use of administrative data sources will be needed in the future for the production of demographic and migration statistics and also for the 2021 Population Census. This brings about numerous challenges, both in accessing and using administrative data.

39. Dynamics and complexity of migration processes has stimulated intensified cooperation and debate with the scientific community and colleagues from other national statistics offices.

40. The recent regulation on the European demographic statistics provides the framework for further development of demographic and migration statistics.

V. References

Jolivet M., Xenogiani T., Dumont J.-C. (2012), Measuring return migration: some preliminary findings in time of crisis. OECD. Economic Commission for Europe. Conference of European Statisticians.

Lapėnienė V. (2009), New approach to international migration statistics in Lithuania. Combination of data from labour force survey and population registers. Statistics Lithuania.

National Statistics Institute of Spain (2012), Statistical approach to the migratory phenomenon in Spain during the period 2001-2011 from the recorded information in the Municipal Population Registers. Economic Commission for Europe. Conference of European Statisticians.

Statistics Netherlands (2012), Return migration rates of recent immigrants compared to flows in the previous century. Economic Commission for Europe. Conference of European Statisticians.

Tegsjö B. (2005), Experience and proposals from a migration statistics project at Statistics Sweden. 28th CEIES seminar. Migration statistics. p. 123-131.

United Nations (1998), Recommendations on Statistics of International Migration. Revision 1, New York.

United Nations (2011), Statistics on international migration. A practical guide for countries of Eastern Europe and Central Asia.

United Nations (2014), Migration statistics. Report of the Secretary-General. Economic and Social Council.